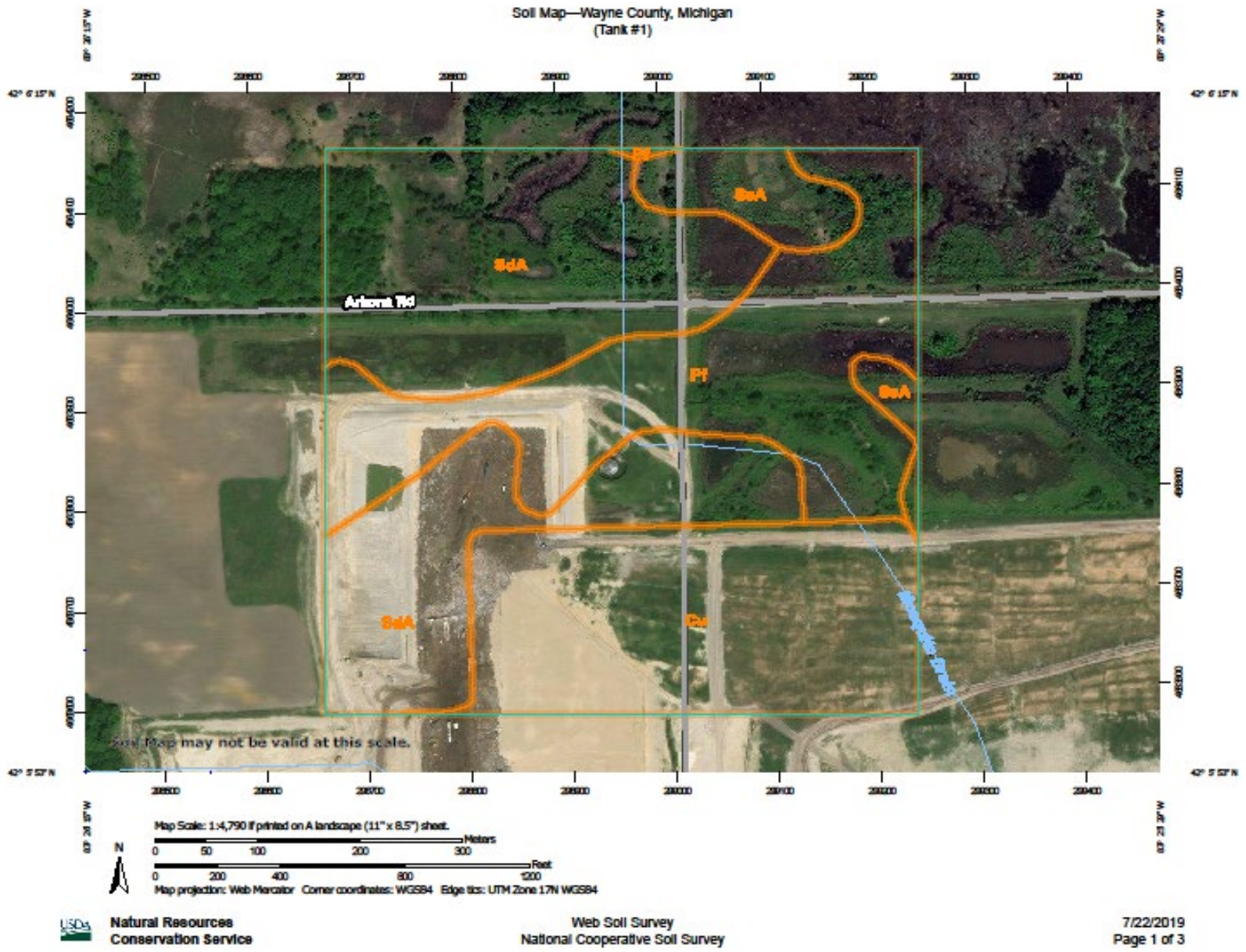
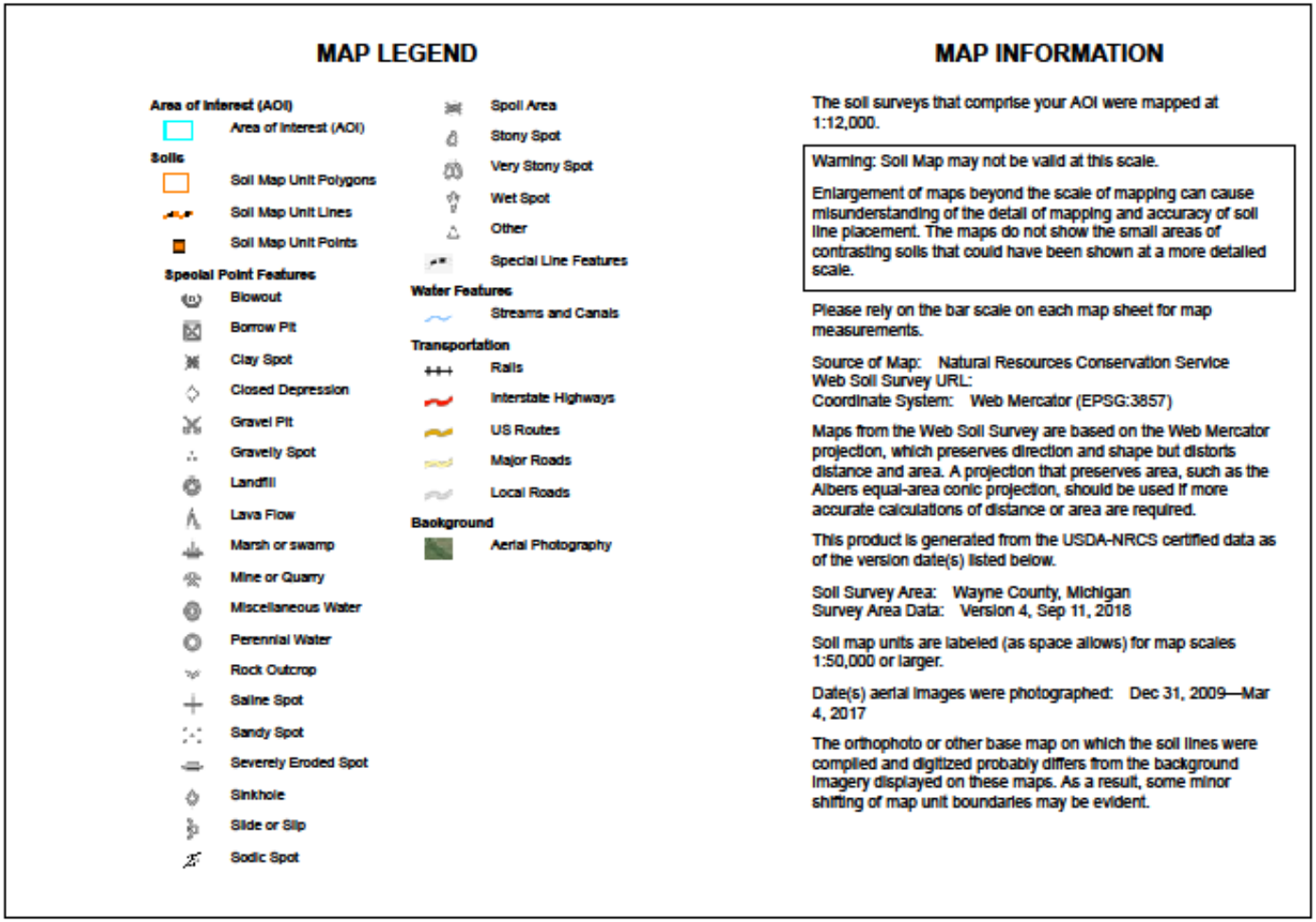
Photo 8 - Soil pit excavated within proposed Well Pad 2.

7.2 APPENDIX B – Well Pad 1 Soil Map



7.2 APPENDIX B – Well Pad 1 Soil Map

Soil Map—Wayne County, Michigan
(Tank #1)

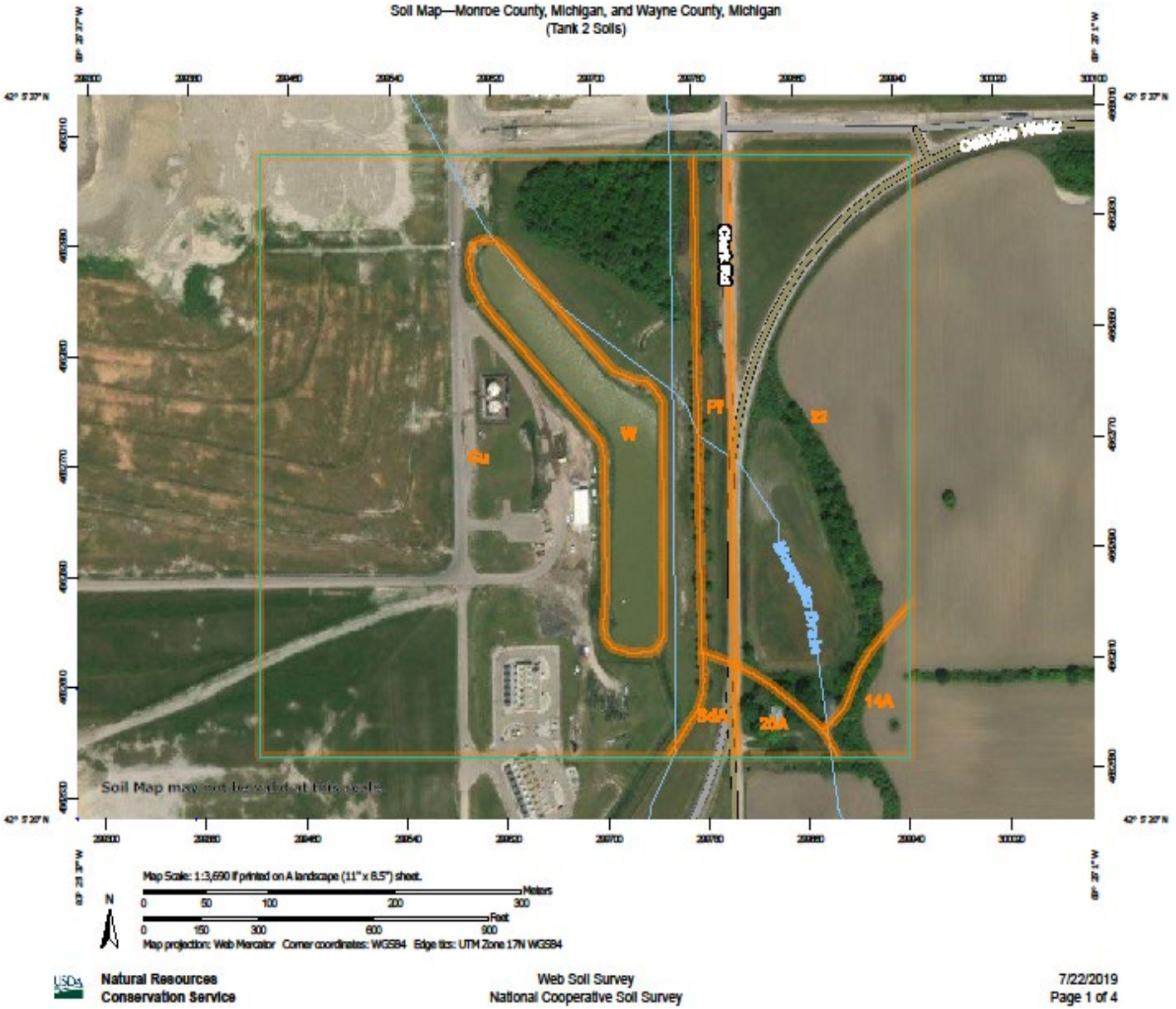


7.2 APPENDIX B – Well Pad 1 Soil Map

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cu	Cut and fill land	20.5	25.2%
Pf	Pewamo clay loam	21.7	26.7%
SdA	Selfridge-Pewamo complex, 0 to 3 percent slopes	34.4	42.3%
SeA	Selfridge loamy sand, 0 to 3 percent slopes	4.7	5.8%
Totals for Area of Interest		81.4	100.0%

7.3 APPENDIX C – Well Pad 2 Soil Map



7.3 APPENDIX C – Well Pad 2 Soil Map

Soil Map—Monroe County, Michigan, and Wayne County, Michigan
(Tank 2 Soils)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:12,000 to 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Monroe County, Michigan
Survey Area Data: Version 16, Sep 6, 2018

Soil Survey Area: Wayne County, Michigan
Survey Area Data: Version 4, Sep 11, 2018

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Mar 4, 2017

Natural Resources Conservation Service | Web Soil Survey National Cooperative Soil Survey | 7/22/2019 Page 2 of 4

7.3 APPENDIX C – Well Pad 2 Soil Map

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
14A	Del Rey silt loam, 0 to 3 percent slopes	1.1	2.0%
20A	Selfridge-Pewamo complex, 0 to 3 percent slopes	0.8	1.5%
22	Pewamo clay loam	13.4	24.0%
Subtotals for Soil Survey Area		**15.4**	**27.5%**
Totals for Area of Interest		**56.0**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cu	Cut and fill land	33.9	60.5%
Pf	Pewamo clay loam	2.4	4.3%
SdA	Selfridge-Pewamo complex, 0 to 3 percent slopes	0.6	1.1%
W	Water	3.7	6.7%
Subtotals for Soil Survey Area		**40.6**	**72.5%**
Totals for Area of Interest		**56.0**	**100.0%**

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Requestor: Dave Dortman
Project Name: Part 615 Underground Injection Wells
Project Location: Sumpter Township, Wayne County, Michigan
Date Created: 07/18/2019

Use of Data

By acceptance of the information services made available through MNFI the recipient understands that access to the information is provided for primary use only. MNFI requests that the user respect the confidential and sensitive nature of the information. There should be no redistribution of the information. Indiscriminate distribution of information regarding locations of many rare species represents a threat to their protection. Additionally, since the information is constantly being updated MNFI requests that any information service provided by MNFI is destroyed upon completion of the primary use. This information is valid for one year only.

The recipient(s) of the information understand that state endangered and threatened species are protected under state law (Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection). Any questions, observations, new findings, violations or clearance of project activities should be conducted with the Michigan Department of Natural Resources, Wildlife Division. Contact the Endangered Species Coordinator at (517) 284-9453. The recipient(s) of the information understand that federally endangered and threatened species are protected under federal law (Endangered Species Act of 1973). Any questions, observations, new findings, violations or clearance of project activities should be conducted with the U.S. Fish and Wildlife Service in East Lansing at (517) 351-2555. Recipients of the information are responsible for ensuring the protection of protected species and obtaining proper clearance before project activities begin.

Description of Data

The species in this report are listed alphabetically by scientific name. Each record from the database is listed individually. Therefore you may see multiple listings for the same species. The locational and survey date information may be the only differentiating factors when looking at multiple occurrences for a given species. Heritage methodology is followed when entering species occurrences into the MNFI database. Detailed information on heritage methodology can be obtained from NatureServe's website at http://www.natureserve.org. Detailed information on the species listed in this report can be found in abstracts and the rare species explorer on the MNFI website at https://mnfi.anr.msu.edu.

The MNFI database is an ongoing and continuously updated information base. The database is the only comprehensive single source of existing information on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. This database cannot provide a definitive statement on the presence, absence, or condition of the natural features in any given locality, since most sites have not been specifically or thoroughly surveyed for their occurrence. Some of the element records are historical. While this historical information may not be important for regulatory purposes, it is important for management and restoration purposes and for scientific use. Furthermore, plant and animal populations and natural communities change with time. Therefore, the information services provided should not be regarded as a complete statement on the occurrence of special natural features of the area in question. In many cases the information may require the interpretation of a trained scientist.

Any comments or questions can be directed to MNFI via our e-mail at mnfi@msu.edu or by calling 517-284-6200.

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Plants and Animals

Scientific Name	Common Name	State Status	Federal Status	Count
Alasmidonta marginata	Elktoe	SC		1
Alasmidonta viridis	Slippershell	T		1
Ammodramus henslowii	Henslow's sparrow	E		1
Angelica venenosa	Hairy angelica	SC		1
Aristida longespica	Three-awned grass	T		1
Asclepias purpurascens	Purple milkweed	T		1
Asclepias sullivantii	Sullivant's milkweed	T		1
Carex squarrosa	Sedge	SC		3
Cyclonaias tuberculata	Purple wartyback	T		2
Diarrhena obovata	Beak grass	T		2
Eleocharis engelmannii	Engelmann's spike rush	SC		1
Euonymus atropurpureus	Wahoo	SC		1
Euphyes dukesi	Dukes' skipper	T		2
Gallinula galeata	Common gallinule	T	PS	1
Haliaeetus leucocephalus	Bald eagle	SC		1
Hydrastis canadensis	Goldenseal	T		1
Hypericum gentianoides	Gentian-leaved St. John's-wort	SC		3
Juncus anthelatus	Large path rush	SC		2
Juncus brachycarpus	Short-fruited rush	T		6
Justicia americana	Water willow	T		1
Lampsilis fasciola	Wavyrayed lampmussel	T		2
Lasmigona costata	Flutedshell	SC		1
Leucospora multifida	Conobea	SC		1
Ligumia nasuta	Eastern pondmussel	E		1
Lipocarpha micrantha	Dwarf-bulrush	SC		1
Meropleon ambifusca	Newman's brocade	SC		1
Nelumbo lutea	American lotus	T		1
Opsopoeodus emiliae	Pugnose minnow	E		2
Panax quinquefolius	Ginseng	T		1
Papaipema beeriana	Blazing star borer	SC		2
Pomatiopsis cincinnatiensis	Brown walker	SC		1

Michigan Natural Features Inventory

There should be no redistribution of these data. MNFI requests that the user respect the confidential and sensitive nature of these data. Indiscriminate distribution of information regarding locations of many rare species represents a threat to their protection.

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7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Plants and Animals
(continued)

Scientific Name	Common Name	State Status	Federal Status	Count
Ptychobranchus fasciolaris	Kidney shell	SC		1
Quercus shumardii	Shumard's oak	SC		1
Scleria pauciflora	Few-flowered nut rush	E		1
Scleria triglomerata	Tall nut rush	SC		1
Silphium perfoliatum	Cup plant	T		1
Stylurus plagiatus	Russet-tipped clubtail	SC		1
Symphyotrichum praealtum	Willow aster	SC		1
Utterbackia imbecillis	Paper pondshell	SC		1
Villosa fabalis	Rayed bean	E	LE	2
Villosa iris	Rainbow	SC		1

Number of Species: 41 **Number of Occurrences: 58**

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Natural Communities

Community Type	Count
Wet-mesic Flatwoods	1
Mesic Sand Prairie	2
Lakeplain Wet-mesic Prairie	1
Lakeplain Wet Prairie	1

Number of Community Types: 4 **Number of Occurrences: 5**

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Alasmidonta marginata

Elktoe — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G4	State Rank: S3?

Last Observed Date: 1932-10-28

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	27

Alasmidonta viridis

Slippershell — **Invertebrate Animal**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S2S3

Last Observed Date:

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	16

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Ammodramus henslowii

Henslow's sparrow — **Vertebrate Animal**

Federal Status:	State Status: E	Global Rank: G4	State Rank: S3

Last Observed Date: 2005-06-27

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	34

Angelica venenosa

Hairy angelica — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 2018-07-21

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

Aristida longespica

Three-awned grass — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 2001-09

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	25, 26, 35

Michigan Natural Features Inventory

There should be no redistribution of these data. MNFI requests that the user respect the confidential and sensitive nature of these data. Indiscriminate distribution of information regarding locations of many rare species represents a threat to their protection.

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7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Asclepias purpurascens

Purple milkweed — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G5?	State Rank: S2

Last Observed Date: 2015-06-22

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	29, 32

Asclepias sullivantii

Sullivant's milkweed — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 2016-06-21

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	25

Carex squarrosa

Sedge — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G4G5	State Rank: S1

Last Observed Date: 2015-08-18

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	26, 34

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Carex squarrosa

Sedge **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G4G5	State Rank: S1

Last Observed Date: 1998-05-30

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	26

Carex squarrosa

Sedge **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G4G5	State Rank: S1

Last Observed Date: 2017-09-11

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	27

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Cyclonaias tuberculata

Purple wartyback — **Invertebrate Animal**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 1932-10-28

County: Monroe, Wayne

Watershed: Huron

Town Range	Section
T04SR09E	25, 26, 27, 35, 36
T04SR10E	31
T05SR10E	5, 6, 8, 9, 15, 16

Cyclonaias tuberculata

Purple wartyback — **Invertebrate Animal**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 1995

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	7, 8, 16, 21

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Diarrhena obovata

Beak grass — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S2

Last Observed Date: 2003-08-29

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	6, 7, 8, 17

Diarrhena obovata

Beak grass — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S2

Last Observed Date: 2003-09-10

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	16, 21

Eleocharis engelmannii

Engelmann's spike rush — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G4G5	State Rank: S2S3

Last Observed Date: 1994-09-23

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Euonymus atropurpureus

Wahoo — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 2003-09-11

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	16

Euphyes dukesi

Dukes' skipper — **Invertebrate Animal**

Federal Status:	State Status: T	Global Rank: G3	State Rank: S2

Last Observed Date: 2009-07-16

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	26, 33
T04SR09E	30

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Euphyes dukesi

Dukes' skipper — **Invertebrate Animal**

Federal Status:	State Status: T	Global Rank: G3	State Rank: S2

Last Observed Date: 2010-07-24

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	19, 20, 21

Gallinula galeata

Common gallinule — **Vertebrate Animal**

Federal Status: PS	State Status: T	Global Rank: G5	State Rank: S3

Last Observed Date: 2007-07-05

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	35

Haliaeetus leucocephalus

Bald eagle — **Vertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S4

Last Observed Date: 2017

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	35

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Hydrastis canadensis

Goldenseal — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G3G4	State Rank: S2

Last Observed Date: 1995-05-14

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR09E	33

Hypericum gentianoides

Gentian-leaved St. John's-wort — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 1980-09-12

County: Monroe

Watershed: Ottawa-Stony

Town Range	Section
T05SR08E	4, 5

Hypericum gentianoides

Gentian-leaved St. John's-wort — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 1991-02-14

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	35

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Hypericum gentianoides

Gentian-leaved St. John's-wort — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 2018-07-21

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

Juncus anthelatus

Large path rush — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5TNR	State Rank: SNR

Last Observed Date: 2009-08-21

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	35

Juncus anthelatus

Large path rush — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5TNR	State Rank: SNR

Last Observed Date: 1991-07-16

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	26

Michigan Natural Features Inventory

There should be no redistribution of these data. MNFI requests that the user respect the confidential and sensitive nature of these data. Indiscriminate distribution of information regarding locations of many rare species represents a threat to their protection.

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7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Juncus brachycarpus

Short-fruited rush — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S1S2

Last Observed Date: 2001-09

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	35

Juncus brachycarpus

Short-fruited rush — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S1S2

Last Observed Date: 1990-08-04

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	31, 32

Juncus brachycarpus

Short-fruited rush — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S1S2

Last Observed Date: 1995-07-25

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR09E	33

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Juncus brachycarpus

Short-fruited rush — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S1S2

Last Observed Date: 1979-07-13

County: Monroe

Watershed: Ottawa-Stony

Town Range	Section
T05SR08E	3, 4, 5, 6, 7, 8, 9, 10

Juncus brachycarpus

Short-fruited rush — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S1S2

Last Observed Date: 2015-08-18

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	34

Juncus brachycarpus

Short-fruited rush — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4G5	State Rank: S1S2

Last Observed Date: 2014-09-22

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	25

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Justicia americana

Water willow — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 1943-08-25

County: Monroe, Wayne

Watershed: Huron

Town Range	Section
T04SR09E	25, 26, 27, 35, 36
T04SR10E	31
T05SR10E	5, 6, 8, 9, 15, 16

Lakeplain Wet Prairie

Federal Status:	State Status:	Global Rank: G2	State Rank: S1

Last Observed Date: 2009-07-07

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

Lakeplain Wet-mesic Prairie

Federal Status:	State Status:	Global Rank: G1?	State Rank: S1

Last Observed Date: 1994-09-23

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

Michigan Natural Features Inventory

There should be no redistribution of these data. MNFI requests that the user respect the confidential and sensitive nature of these data. Indiscriminate distribution of information regarding locations of many rare species represents a threat to their protection.

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7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Lampsilis fasciola

Wavyrayed lampmussel — **Invertebrate Animal**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 1995-07-13

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	6, 7, 8

Lampsilis fasciola

Wavyrayed lampmussel — **Invertebrate Animal**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 1995-07-13

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	16, 17, 21

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Lasmigona costata

Flutedshell — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: SNR

Last Observed Date: 1932-10-28

County: Monroe, Wayne

Watershed: Huron

Town Range	Section
T04SR09E	22, 26, 27
T04SR10E	31
T05SR10E	6, 9, 16

Leucospora multifida

Conobea — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: SNR

Last Observed Date: 2014-09-16

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Ligumia nasuta

Eastern pondmussel — **Invertebrate Animal**

Federal Status:	State Status: E	Global Rank: G4	State Rank: S2

Last Observed Date: 1931-10-28

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	22, 27

Lipocarpha micrantha

Dwarf-bulrush — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 1980-09-12

County: Monroe

Watershed: Ottawa-Stony

Town Range	Section
T05SR08E	4, 5

Meropleon ambifusca

Newman's brocade — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G3G4	State Rank: S2S3

Last Observed Date: 2012-09-12

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Mesic Sand Prairie

Federal Status:	State Status:	Global Rank: G2	State Rank: S1

Last Observed Date: 1994-06-27

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	29, 30

Mesic Sand Prairie

Federal Status:	State Status:	Global Rank: G2	State Rank: S1

Last Observed Date: 1994-09-23

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

7.4 APPENDIX D – MNFI Information Request

Michigan Natural Features Inventory Information Request

Nelumbo lutea

American lotus — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G4	State Rank: S2

Last Observed Date: 1979

County: Monroe, Wayne

Watershed: Huron, Ottawa-Stony

Town Range	Section
T04SR09E	13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
T04SR10E	18, 19, 20, 29, 30, 31, 32
T05SR09E	1, 2, 3, 4, 10, 11, 12
T05SR10E	5, 6, 7

Opsopoeodus emiliae

Pugnose minnow — **Vertebrate Animal**

Federal Status:	State Status: E	Global Rank: G5	State Rank: S1

Last Observed Date: 1941-10-12

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	6, 7, 8, 17

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Opsopoeodus emiliae

Pugnose minnow — **Vertebrate Animal**

Federal Status:	State Status: E	Global Rank: G5	State Rank: S1

Last Observed Date: 1941-10-12

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	22, 26, 27

Panax quinquefolius

Ginseng — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G3G4	State Rank: S2S3

Last Observed Date: 1998-08-12

County: Monroe

Watershed: Ottawa-Stony

Town Range	Section
T05SR08E	3

Papaipema beeriana

Blazing star borer — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G2G3	State Rank: S2

Last Observed Date: 2014-09-14

County: Wayne

Watershed: Ottawa-Stony

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Michigan Natural Features Inventory Information Request

Papaipema beeriana

Blazing star borer — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G2G3	State Rank: S2

Last Observed Date: 2012-09-15

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	26

Pomatiopsis cincinnatiensis

Brown walker — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G4	State Rank: SH

Last Observed Date:

County: Monroe, Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	24
T04SR09E	29, 30, 32
T05SR08E	1, 2, 3, 4, 10, 11, 13, 14, 15, 16, 24
T05SR09E	4, 5, 7, 8, 9, 10, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 29, 30

Michigan Natural Features Inventory

There should be no redistribution of these data. MNFI requests that the user respect the confidential and sensitive nature of these data. Indiscriminate distribution of information regarding locations of many rare species represents a threat to their protection.

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Ptychobranchus fasciolaris

Kidney shell — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G4G5	State Rank: S2

Last Observed Date: 1932-10-28

County: Monroe, Wayne

Watershed: Huron

Town Range	Section
T04SR09E	16, 17, 22, 27
T04SR10E	31
T05SR10E	9

Quercus shumardii

Shumard's oak — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S2

Last Observed Date: 2015-08-18

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	27, 34

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Scleria pauciflora

Few-flowered nut rush — **Vascular Plant**

Federal Status:	State Status: E	Global Rank: G5	State Rank: S1

Last Observed Date: 1995-07-20

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

Scleria triglomerata

Tall nut rush — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 1994-09-23

County: Wayne

Watershed: Ottawa-Stony

Town Range	Section
T04SR08E	27

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Michigan Natural Features Inventory Information Request

Silphium perfoliatum

Cup plant — **Vascular Plant**

Federal Status:	State Status: T	Global Rank: G5	State Rank: S2

Last Observed Date: 2003-08-29

County: Wayne

Watershed: Huron

Town Range	Section
T03SR08E	36
T04SR09E	6, 8

Stylurus plagiatus

Russet-tipped clubtail — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S1

Last Observed Date: 2010-08-07

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	27

Symphyotrichum praealtum

Willow aster — **Vascular Plant**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S3

Last Observed Date: 2011-03-14

County: Wayne

Watershed: Ottawa-Stony

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Utterbackia imbecillis

Paper pondshell — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G5	State Rank: S2S3

Last Observed Date: 1932-10-28

County: Monroe, Wayne

Watershed: Huron

Town Range	Section
T04SR09E	27
T04SR10E	31
T05SR10E	9

Villosa fabalis

Rayed bean — **Invertebrate Animal**

Federal Status: LE	State Status: E	Global Rank: G2	State Rank: S1S2

Last Observed Date: 1995-07-13

County: Wayne

Watershed: Huron

Town Range	Section
T03SR08E	24
T04SR09E	6, 7, 8, 16, 17

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Villosa fabalis

Rayed bean — **Invertebrate Animal**

Federal Status: LE	State Status: E	Global Rank: G2	State Rank: S1S2

Last Observed Date: 1995-07-13

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	21, 22, 26, 27

Villosa iris

Rainbow — **Invertebrate Animal**

Federal Status:	State Status: SC	Global Rank: G5Q	State Rank: S3

Last Observed Date: 1932-10-28

County: Monroe, Wayne

Watershed: Huron

Town Range	Section
T04SR09E	16, 27
T04SR10E	31
T05SR10E	9

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Wet-mesic Flatwoods

Federal Status:	State Status:	Global Rank: G2G3	State Rank: S2

Last Observed Date: 2015-08-18

County: Wayne

Watershed: Huron

Town Range	Section
T04SR09E	27, 34

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Federal Protection Status Code Definitions

LE = Listed endangered
LT = Listed threatened
LE/LT = Partly listed endangered and partly listed threatened
PDL = Proposed delist
E(S/A) = Endangered based on similarities/appearance
PS = Partial status (federally listed in only part of its range)
C = Species being considered for federal status

State Protection Status Code Definitions

E = Endangered
T = Threatened
SC = Special concern
X = Presumed extirpated (legally 'threatened' if rediscovered)

Global Heritage Status Rank Definitions

The priority assigned by NatureServe 's national office for data collection and protection based upon the element's status throughout its entire world-wide range. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences range-wide or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
G3 = Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g. a single western state, a physiographic region in the East) or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.
G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GH = Of historical occurrence throughout its range, i.e. formerly part of the established biota, with the expectation that it may be rediscovered (e.g. Bachman's Warbler).
GU = Possibly in peril range-wide, but status uncertain; need more information.
GX = Believed to be extinct throughout its range (e.g. Passenger Pigeon with virtually no likelihood that it will be rediscovered).
G? = Incomplete data
Q = Taxonomy uncertain
T = Subspecies
U = Unmappable through out the global geographic extent
? = Questionable

Subnational Heritage Status Rank Definitions

The priority assigned by the Michigan Natural Features Inventory for data collection and protection based upon the element's status within the state. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.

S1 = Critically imperiled in the state because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation in the state.
S2 = Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.
S3 = Rare or uncommon in state (on the order of 21 to 100 occurrences).
S4 = Apparently secure in state, with many occurrences.
S5 = Demonstrably secure in state and essentially ineradicable under present conditions.
SA = Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range.
SE = An exotic established in the state; may be native elsewhere in North America (e.g. house finch or catalpa in eastern states).
SH = Of historical occurrence in state and suspected to be still extant.
SN = Regularly occurring, usually migratory and typically nonbreeding species.
SR = Reported from state, but without persuasive documentation which would provide a basis for either accepting or rejecting the report.
SRF = Reported falsely (in error) from state but this error persisting in the literature.
SU = Possibly in peril in state, but status uncertain; need more information.
SX = Apparently extirpated from state.

Michigan Natural Features Inventory
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There should be no redistribution of these data. MNFI requests that the user respect the confidential and sensitive nature of these data. Indiscriminate distribution of information regarding locations of many rare species represents a threat to their protection.

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7.5 APPENDIX E – Well Pad 1 Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DE19-016 City/County: Sumpter Twp./Wayne Sampling Date: 7/23/2019

Applicant/Owner: Deep Blu State: MI Sampling Point: 1

Investigator(s): Dortman Section, Township, Range: Sec. 36, T4S, R8E

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %:

Subregion (LRR or MLRA): LRR L, MLRA 99 Lat: Long: Datum:

Soil Map Unit Name: SdA - Selfridge Pewamo Complex 0-3% slopes; Pf- Pewamo Clay Loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes X	No	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes	No X	

Remarks: (Explain alternative procedures here or in a separate report.)
The majority of the soils mapped on the landfill property in Section 36, T4S, R8E, are listed as hydric soils as this area of lake plain clay was likely hardwood swamp prior to construction of the county drainage system that has since removed hydrology and allowed upland plants to flurish.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (Inches):
Water Table Present?	Yes	No X	Depth (Inches):
Saturation Present? (Includes capillary fringe)	Yes	No X	Depth (Inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Well Pad is located within an area that has been maintained as a field since 1993 per review of google earth, and been continually disturbed since for agriculture, and between 2007 & 2010 for construction of the adjacent wetland mitigation areas.

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7.5 APPENDIX E – Well Pad 1 Wetland Data Sheets

VEGETATION – Use scientific names of plants. Sampling Point: 1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5)			
1. *Trifolium pratense*	60	Yes	FACU
2. *Schedonorus arundinaceus*	30	Yes	FACU
3. *Plantago lanceolata*	10	No	FACU
4. *Melilotus altissimus*	1	No	UPL
5. *Dactylis glomerata*	1	No	FACU
6. *Trifolium repens*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	107 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	106	x 4 =	424
UPL species	1	x 5 =	5
Column Totals:	107 (A)		429 (B)
Prevalence Index = B/A =			4.01

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

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7.5 APPENDIX E – Well Pad 1 Wetland Data Sheets

SOIL Sampling Point 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					Loamy/Clayey	
12-20	10YR 4/1	60	10YR 4/4	40	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Remenant hydric soils as expected at this location and as shown on soil map were confirmed in soil pit.

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7.6 APPENDIX F – Well Pad 2 Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DE19-016 City/County: Sumpter Twp./Wayne Sampling Date: 7-23-2019

Applicant/Owner: Deep Blu State: MI Sampling Point: 2

Investigator(s): Dortman Section, Township, Range: S36, T4S,R8E

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %:

Subregion (LRR or MLRA): LRR L, MLRA 99 Lat: Long: Datum:

Soil Map Unit Name: Cu - Cut & Fill Land NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes	No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Well Pad is proposed within an existing effluent storage facility that has been in place since at least 1993 per aerial photo review and original soil was excavated and filled to create the effluent storage facility and since maintained.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? Yes No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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7.6 APPENDIX F – Well Pad 2 Wetland Data Sheets

VEGETATION – Use scientific names of plants. Sampling Point: 2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5)			
1. *Plantago lanceolata*	40	Yes	FACU
2. *Lolium perenne*	50	Yes	FACU
3. *Taraxacum officinale*	10	No	FACU
4. *Daucus carota*	10	No	UPL
5. *Trifolium repens*	5	No	FACU
6. *Medicago lupulina*	20	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	135 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	125	x 4 =	500
UPL species	10	x 5 =	50
Column Totals:	135 (A)		550 (B)

Prevalence Index = B/A = 4.07

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

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7.6 APPENDIX F – Well Pad 2 Wetland Data Sheets

SOIL Sampling Point 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(Inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/2	100					Sandy	old fill
8-20	10YR 4/3	90	10YR 4/2	10	D	M	Loamy/Clayey	old fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

US Army Corps of Engineers — Northcentral and Northeast Region – Version 2.0

Addendum to Attachment C
Environmental Assessment

DORTMAN ENVIRONMENTAL, L.L.C.
8888 State Road, Burtchville, MI 48059
Phone: 810-689-3106
Email: dortmand@yahoo.com

February 24, 2020

VIA EMAIL

Mr. Terry Blake
Deep Blu Logistics
306 Jay Street
Saint Clair, MI 48079
terry@deepblulogistics.com

Dear Mr. Blake,

SUBJECT: Carleton Farms Well Pad 1 Revised Location Environmental Review
DE Project #20-004

Per your request, Dortman Environmental, LLC (DE) has prepared an amendment to the August 4, 2019, Environmental Assessment Report for the Carleton Farms Wells. Specifically, this amendment to the report addresses the revised location for Well Pad 1 as depicted in Figure 1.

The original location of Well Pad 1 was proposed within a Federal Emergency Management Agency (FEMA) mapped a 100-year floodplain and floodway for the Mosquito Drain as depicted in Figure 5 of the aforementioned report. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) regulates certain activities within 100-year floodplains under Part 31, Water Resources Protection (Part 31), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NERPA). The revised location depicted in Figure 1 attached to this letter is now outside the mapped FEMA floodplain and, therefore, a Part 31 permit from EGLE is not required to construct Well Pad 1 in the revised location.

The vegetative community within the revised location of the Well Pad 1 will be identical to the original location. This is primarily because the new location has been continually disturbed by mowing and maintenance activities for the landfill. The vegetation expected within the revised well pad location is low quality old field plant species dominated by agricultural forbs and grasses along with scattered native graminoids (grasses, sedges, and rushes) very similar to the original location with the exception of the developed roads area. Furthermore, review of recent aerial photos indicates that the revised location for Well Pad 1 is devoid of any trees.

The Natural Resources Conservation Service (NRCS), Web Soil Survey was reviewed for the revised location of Well Pad 1 to obtain soils information. The NRCS Web Soil Map for proposed Well Pad 1 is in Appendix B of the August 4, 2019, Environmental Assessment Report for the Carleton Farms Wells. The map in Appendix B depicts that the soils within the revised location for Well Pad 1 is Selfridge-Pewamo complex, 0 to 3 percent slopes (SdA) commonly

found on glacial lake plains. However, given the extent of historical agricultural practices and the subsequent landfill development within the limits of the revised location for Well Pad 1, it is expected that the soils in this location contain a highly disturbed soil profile.

The threatened and endangered species review completed as a result of the Michigan Natural Features Inventory (MNFI) Information Request included a 4-mile radius around the original location of Well Pad 1. Therefore, the results of the original August 4, 2019, Environmental Assessment Report for the Carleton Farms Wells is still applicable to the revised location of Well Pad 1. None of the species listed within the MNFI report are known to occur within Section 36 of Sumpter Township where Well Pad 1 is proposed. Many of the species listed within the report were eliminated as potentially occurring within proposed Well Pad 1, despite being identified within a 4-mile radius of the well head, because of the lack of suitable habitat within the proposed well pad limits. The revised location of Well Pad 1 has highly disturbed habitat nearly identical to the original location. The disturbed nature of the clay loam soils and degraded floristic quality in the revised location of Well Pad 1 limits the potential for any threatened or endangered species within its limits.

The EGLE also administers Part 301, Inland Lakes and Streams (Part 301), of NREPA which protects stream in Michigan. Part 301 defines an inland lake or stream as a natural or artificial lake, pond, or impoundment; a river, stream, or creek which may or may not be serving as a drain as defined by the drain code of 1956, 1956 PA 40, MCL 280.1 to 280.630; or any other body of water that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water, including the St. Mary's, St. Clair, and Detroit Rivers. An inland lake or stream does not include the Great Lakes, Lake St. Clair, or a lake or pond that has a surface area of less than 5 acres. Based on the criteria outlined in Part 301, review of recent aerial photos, and onsite information obtained during the July 23, 2019 site inspection, DE has confirmed there are no streams, lakes, or ponds are located within the revised location of Well Pad 1. A historical agriculture drain once existed along the southern boundary of the revised location of Well Pad 1. However, a 2016 aerial photo revealed that drain was abandoned and filled in as part of the landfill expansion.

A small portion of the historic agricultural drain in the aforementioned section has reverted into a small palustrine emergent wetland that is visible on the 2019 aerial image in Figure 2 within the revised location of Well Pad 1. In Michigan wetlands are protected under Part 303 Wetlands Protection (Part 303), of NREPA. Under Part 303, "wetland" means a land or water feature, commonly referred to as a bog, swamp, or marsh, inundated or saturated by water at a frequency and duration sufficient to support, and that under normal circumstances does support, hydric soils and a predominance of wetland vegetation or aquatic life. A land or water feature is not a wetland unless it meets any of the following:

(i) Is a water of the United States as that term is used in section 502(7) of the federal water pollution control act, 33 USC 1362.
(ii) Is contiguous to the Great Lakes, Lake St. Clair, an inland lake or pond, or a stream. As used in this subparagraph, "pond" does not include a farm or stock pond constructed consistent with the exemption under section 30305(2)(g).

(iii) Is more than 5 acres in size.
(iv) Has the documented presence of an endangered or threatened species under Part 365 of the endangered species act of 1973, Public Law 93-205.
(v) Is a rare and imperiled wetland.

The small palustrine emergent wetland (Figure 2) that has developed within the location of the former agricultural drain does not fit the aforementioned criteria to be regulated under Part 303. Therefore, this wetland is unregulated and not protected by EGLE and can be developed without the need of obtaining a permit.

Consistent with the original report, the revised location of Well Pad 1 is not within a natural river, critical dune, or a wild and scenic river because none of these protected natural resources occur within Wayne County. Furthermore, also consistent with the original report, the revised Well Pad 1 location is not within a coastal zone management area or a national historic preservation site because neither of these resources occur within Section 36, Town 4S, Range 8E, Sumpter Township, Wayne County, Michigan.

It is DE's opinion that the revised location will not adversely affect any protected state or federal natural resources. If you have any questions or concerns regarding the information discussed within the letter, please feel free to contact me.

Sincerely,

David R. Dortman
Dortman Environmental, LLC
810-689-3106
dortmand@yahoo.com

Figure 1 – Well Pad 1

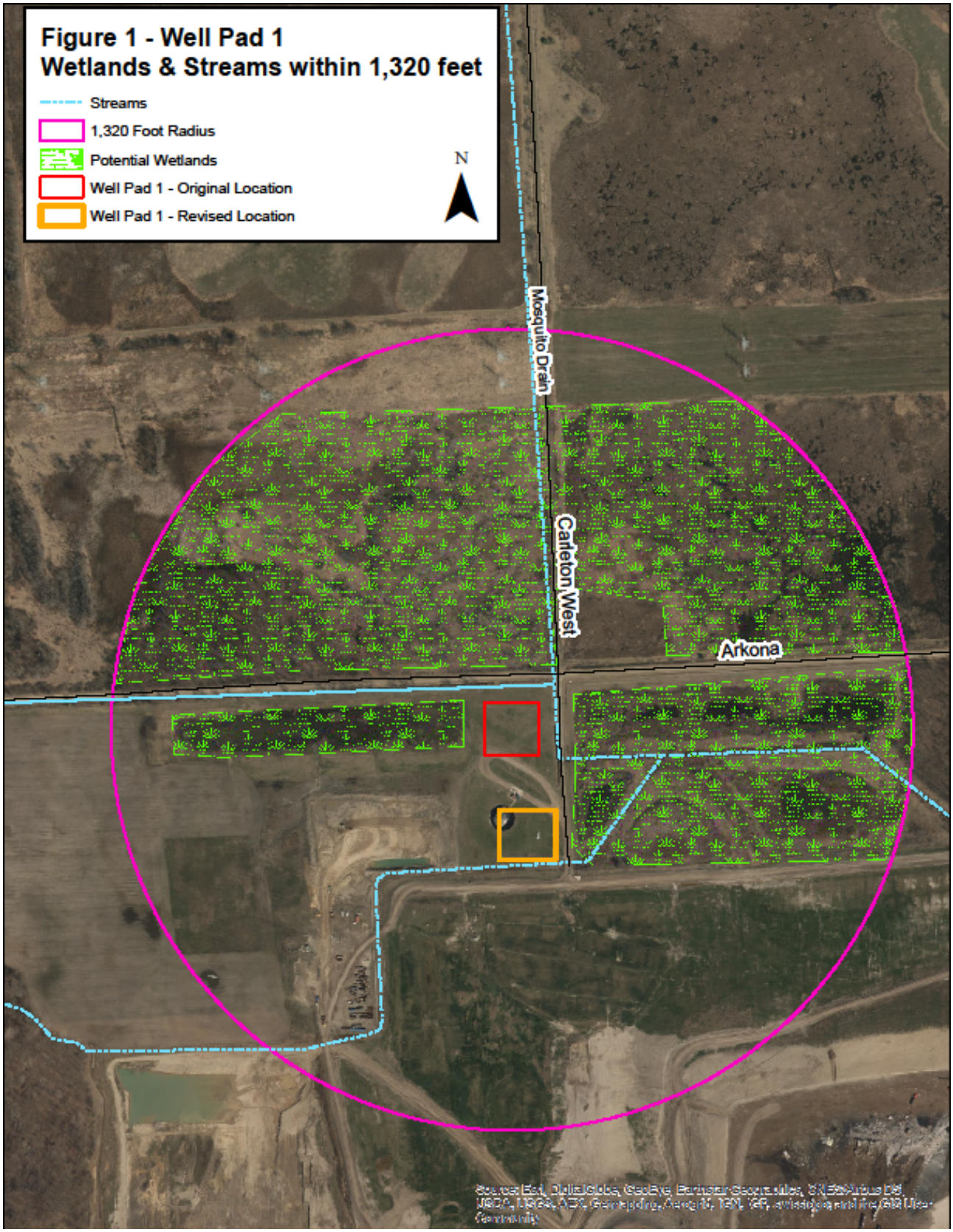

Figure 2 – Well Pad 1 Small Unregulated Wetland